

## CCLX.

## APPENDIX.

*MEMORIAL NOTICES OF MEMBERS DECEASED DURING THE YEAR.*

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JOHN CHIPMAN HOADLEY.

Born December 10, 1818, at Turin, in Lewis County, N. Y. Two years in machine shop at wood and iron work. Preliminary survey for railroad from Utica to Binghamton under J. D. Allen, for few months in 1835. After a winter in Utica Academy, began as chainman, May 26, 1836, on enlargement of Erie Canal under Holmes Hutchinson, Squire Whipple and O. W. Storey. Successively rodman, leveler, surveyor, and draughtsman, until in 1840 was in charge of the party locating the enlargement between Utica and Rome; afterward on the Black River Canal, the Chenango Canal, and the enlargement of the Erie Canal between Little Falls and Syracuse. In the summer of 1842, when work on the canal was nearly suspended, and the assistants were generally discharged, it was found that he had performed his work with so much foresight, and had represented, in his notes and upon his plans, the old work, as well as the new, with such thoroughness and completeness, that in the settlement of claims he was indispensable, and he was retained and transferred to other sections of the canal, to apply as far as possible the methods which he had instituted.

While upon the canal, he received an offer of seven hundred dollars a year from the Messrs. Horatio N. and Erastus B. Bigelow, to come to Lancaster, Mass., as civil engineer in charge of the construction of the mills and steam and water-power plants at that place. This offer he gladly accepted, and by diligent study

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and indefatigable research fitted himself to perform the new duties which in great variety grew upon him with his growing ability. He began when he was twenty-six years old, and remained four years at this work. From this time he turned his energies principally to mechanical engineering; at first, in 1848, at Pittsfield, Mass., with Gordon McKay, in the firm of McKay & Hoadley, for three years, designing and constructing steam engines, water wheels, and other machinery; then five years as superintendent, and part of the time agent of the Lawrence machine shop, designing and constructing woolen, cotton, and paper machinery, water wheels, stationary steam engines, and locomotives. Then in 1857, he began the manufacture on his own account of portable steam engines, which he improved greatly in efficiency, and continued in the business for twenty years. His experience with locomotives had led him into an analysis of the dynamical relations which speed bore to the operation of engines, and the result of his investigations, partly mathematical and partly experimental, was to bring out an engine embodying many features which have since been largely used by others. His engine was the first of the single-valve automatics, with governor at the side of the driving pulley. During this time, also, he was engaged personally for four years in charge of the works of the New Bedford Copper Company; one year in charge of the McKay Sewing Machine Association, in 1866; one session as Representative in the Legislature of Massachusetts (1858), and four months on a mission to England in 1862, to inspect and report upon ordnance for harbor defense for the State of Massachusetts. He was a presidential elector in 1872. He also served from 1873 till 1882 on the Boards of Health, Lunacy and Charity of his State. He was moreover interested in the organization of the Clinton Wire Cloth Company, and was president of the Archibald Wheel Company.

During the later years of his life, and particularly since the commercial crisis of 1873, Mr. Hoadley separated himself from the manufacturing and the commercial side of the profession, and devoted himself more to consulting and expert practice. He was particularly in repute for patent causes, because of his remarkable memory and power of keen analysis, coupled with an unlimited capacity for taking pains and for elaborating a subject to the minutest detail. He acted as expert also in many of the best known tests of water-works pumping engines in New England,

and as judge at many of the mechanical expositions. He was one of the original trustees of the Massachusetts Institute of Technology, and presented much valuable apparatus to its cabinets.

Mr. Hoadley was one of the charter members of the American Society of Mechanical Engineers, and contributed many valuable papers of characteristic thoroughness. He also published many results of his work in pamphlet form, among the most notable of the recent ones being his "American Steam Engine Practice in 1884," which was presented as a paper at the Montreal meeting of the British Association for the Advancement of Science.

His death took place October 21, 1886, at his home in Boston, Mass. Much of his collection of expert apparatus was purchased from his executors by Mr. Stephen W. Baldwin, of New York, and presented entire to the American Society of Mechanical Engineers. He received the honorary degree of A. M. from Williams College, in 1852.

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#### HOMER HAMILTON.

Born in Youngstown, Ohio, in 1836. Apprenticed as machinist in plow works of Predmore and Fellows. Later, the firm of Homer Hamilton & Co. was organized, which again was changed to William Tod & Co., operating the Hamilton Works, one of the largest foundry and machine shops in that part of Ohio, making a specialty of furnace and rolling-mill machinery. Mr. Hamilton was one of the charter members of the society, and held many positions of trust in his native town; he was appointed in 1883 commissioner from his State to the New Orleans Exposition. He had been failing in health for some time before his death, which took place on November 29, 1886, while the seventh annual meeting of the Society was in session.

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#### JOHN B. ROOT.

Was born at Jamestown, New York, January 4, 1830, and died at Port Chester, December 11, 1886. At the age of fourteen years he was fitted for college at Lewiston and Seneca Falls Academies, but instead of entering on a collegiate course he preferred the work of aiding his father and uncle, John B. Ives, in canal construction, on the James River Commission in Virginia.

In California also he built water-works for hydraulic mining on the Sacramento River. In 1846 he began to build steam engines in Brooklyn, and alone and with others he was engaged from 1863 to 1869 in building several of his own special designs, on which he had been granted several patents; but most of these were more distinguished for their novelty than for any definite economic results. He is best known for his many improvements in the field of building sectional steam boilers, on which he was engaged from 1866 to 1885, and took out many patents. In 1876 he made important improvements in machinery for manufacturing riveted spiral pipe, which have been successfully and extensively employed in that industry in connection with the manufacture of the Root boiler. During his early experiments in making spiral riveted pipe he conceived the idea of making spiral *welded* pipe of sheet iron, and the last five years of his life were mainly devoted to inventing and developing machinery for its automatic production. The difficulties which he had to encounter in this last line of experiments were many and hard to overcome, but he finally succeeded in reaching a practical success only a few weeks before his death. Mr. Root joined the Society in April, 1882, and his contributions to the Society's Transactions were made in that year.

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BISHOP ARNOLD.

Born in Fairfield, N. Y., June 16, 1853. Died February 16, 1887. Entered Sibley College, Cornell University, in 1869, and studied for two years. He was for five years acting as designer for the Birdsall Company of Auburn, N. Y., making a specialty of traction machinery, on which he had obtained several patents, and at the time of his death was a partner in a firm manufacturing steam-heating appliances.

He joined the Society at its Chicago meeting, in May, 1886, and attended that convention only.

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B. F. EMERSON.

Born in Middleton, Essex County, Mass., December 22, 1837. His early life was spent as a clerk in Boston, and he went out at first in that capacity with the Copper Falls Mining Company to Keweenaw County, in Michigan. His executive and mechanical

capacity brought promotion, and he was made superintendent in 1873, and was agent for the company at the time of his death.

In August, 1886, during the forest fires of Michigan, when the mills were endangered, Mr. Emerson was superintending the work of protecting the structures from an elevated trestle, but stepping backward he fell and injured his spine. Paralysis set in, and he was brought back to Boston, where he died April 5, 1887. Mr. Emerson left \$10,000 in trust to the public library of his native town, and his collection of mineral specimens to the Michigan Mining School. He was elected an associate member of the Society in May, 1885.

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WILLIAM LEONARD NICOLL.

Was born at New Windsor, Orange County, N. Y. His early life was spent at home, but when the rebellion began he entered the navy as third assistant engineer. He served on board the gunboat *Marblehead* and the iron-clad *Onondaga*. During the latter part of the war he was engaged in the torpedo service on the James River. After the war he was ordered to the New York Navy Yard and later to the United States steamer *Powhatan*. In 1868 he joined the European squadron, serving on board the flag ship *Franklin* for three years. Since then he was attached to the Bureau at Washington for three years, and for three years he was stationed at the Naval Academy. In 1880 he was ordered to the *Monocacy* in China, on board which ship he remained for four years, being ordered home for examination for promotion in the spring of 1884. From June, 1884, until March 30, 1887, he was on duty in the New York Navy Yard, being attached to the receiving ship *Vermont*. He served upon various experimental boards until the date of the commencement of his last illness. During the war he was made second assistant engineer. In 1868 he was promoted to the grade of passed assistant engineer, and in 1885 he was made chief engineer. He was detached from the *Vermont* and ordered on sick leave on March 30, 1887. His death took place at Southampton, on July 2. He joined the Society as member at the November meeting of 1882.

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JACKSON BAILEY.

Mr. Bailey was born May 12, 1847, at Schenectady, N. Y. At fifteen years of age he enlisted as a private in the One Hundred

and Thirty-fourth Regiment of New York Infantry, and served three years, to the close of the Civil War. He was at Missionary Ridge and in several other battles, and served in Sherman's army during the march to the sea.

Mustered out of service at eighteen years of age, he entered the State Normal School at Albany, N. Y., from which he graduated in due course and afterward was engaged in teaching. Later on he connected himself with a New York publishing firm, which position he relinquished to become New York representative of the *American Manufacturer and Iron World*, of Pittsburgh.

In November, 1877, the *American Machinist* was established as a monthly journal devoted to the machinery trades, Mr. Bailey retaining the post of its editor from the beginning up to the time of his death. In 1880, when the idea of forming the American Society of Mechanical Engineers took shape in the minds of its founders, Mr. Bailey was active in furthering the plans of organization, and the earliest meeting for definite conference in the matter was called in his office. He came in as associate, under the rules which were later established as to grades of membership, but his interest in the Society and its growth was always keen and enthusiastic. He was First Vice-President of the New York Press Club, and was also a member of the American Institute Mining Engineers, and of the Electric Club of New York. He was also a Mason. His health had not been robust from malarial troubles for over a year before his death, and his associates had compelled him to take a vacation, from which he returned refreshed, but the difficulty developed into consumption of the bowels, from which he died on July 7th.

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JAMES SHERIFFS.

Mr. Sheriffs was born in Banff, Scotland, September 22, 1822. Landing in New York in the year 1848, he came to Milwaukee in 1849. As foreman of the Menominee Foundry, which was doing railroad work at that time, he had the honor of making the first locomotive castings, including driving wheels, made in the Northwest. Went to Chicago, taking charge of the Gates & McKnight Foundry there. Came back to Milwaukee and started a foundry in June, 1854, making architectural and general castings, In 1866, commenced building marine work, and has built the



largest compound engines built in the Lake Michigan district. Commenced manufacture of propeller wheels in 1873, and has made wheels for nearly all parts of the United States, especially for towing. He died July 18, 1867, after an illness of four months. His membership in the Society dated from the thirteenth meeting, in Chicago.



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